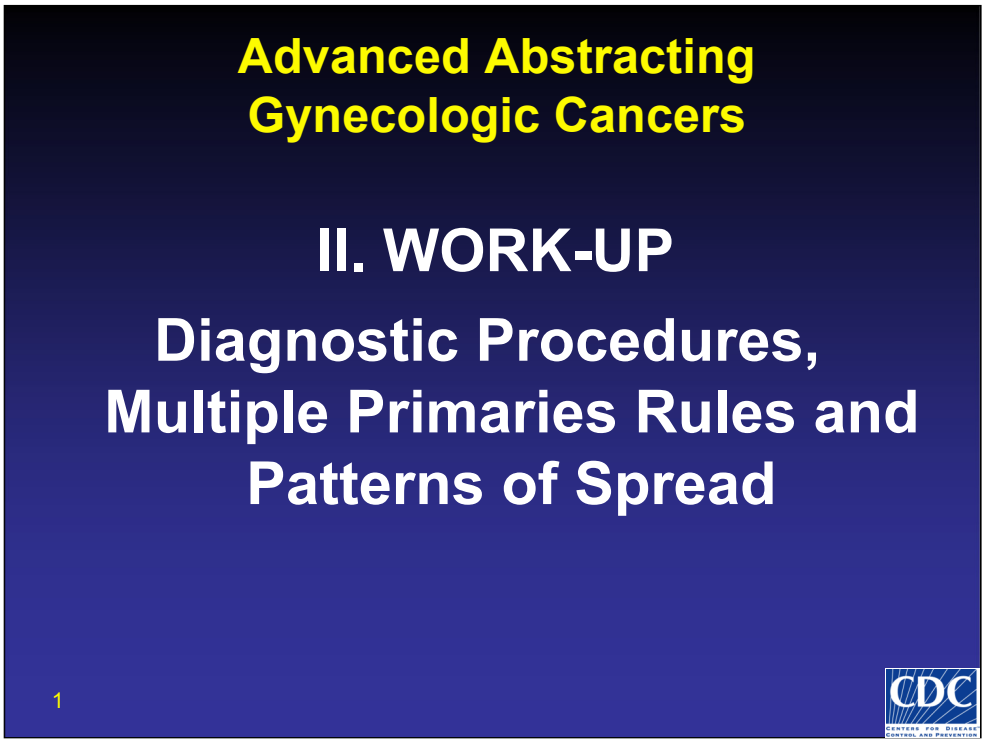
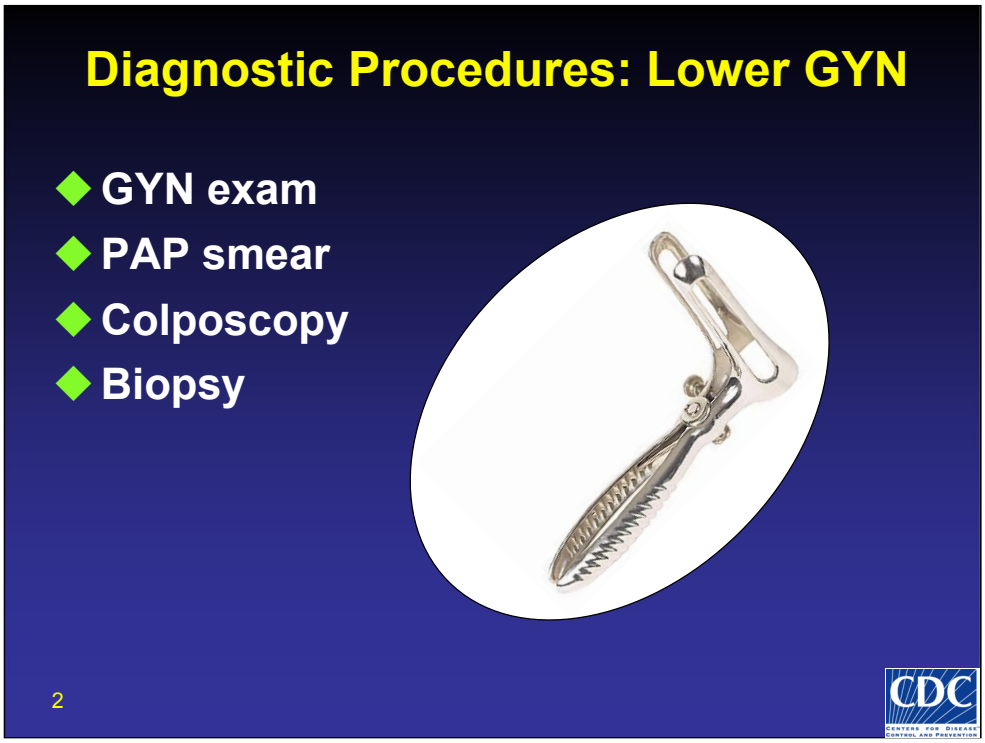


This section of advanced abstracting for gynecologic cancers discusses diagnostic procedures, multiple primaries rules and patterns of spread for the various GYN sites.

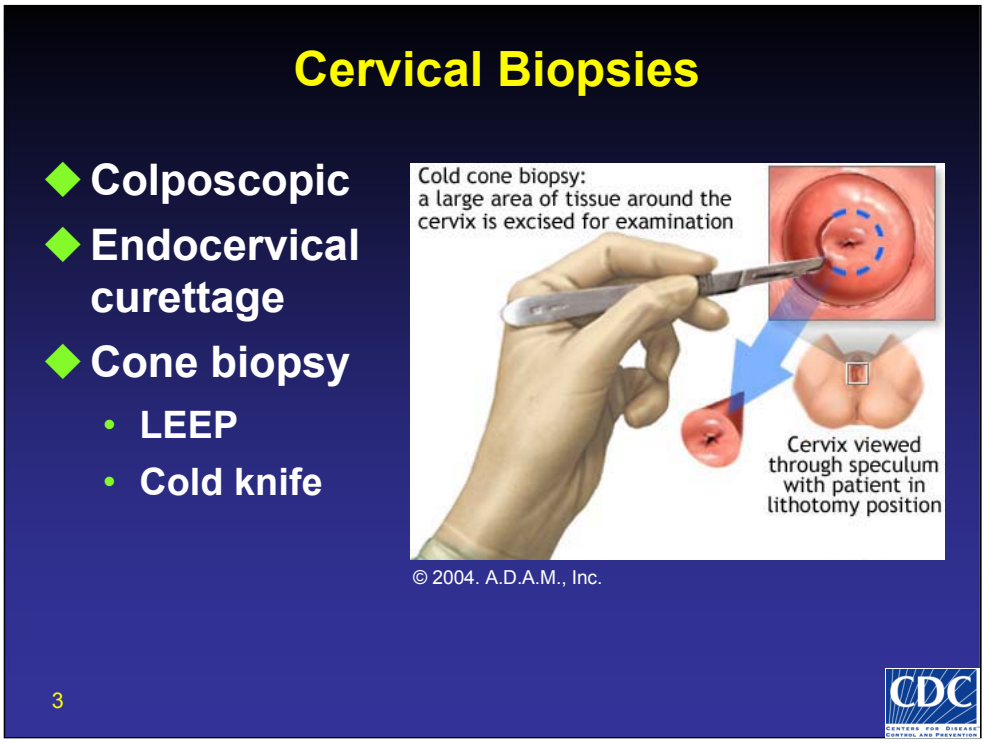


Routine, annual GYN exams are the most effective way currently available for diagnosing GYN cancers early. During the exam, lesions in the lower GYN organs (vulva, vagina and cervix) can be visualized, palpated and biopsied. Palpation can provide evidence of the level of invasion and clinical status of pelvic nodes.

GYN physical exams are not effective for finding early cervical cancers, which is why a PAP test should also be done. PAP smears are very effective in finding cervical cancers while still non-invasive.

Colposcopy uses an instrument that magnifies the surface tissue of the cervix and makes lesions easier to see.

Excisional biopsies with negative margins provide both diagnosis and treatment. Incisional biopsies are done for larger lesions and are diagnostic only. Types of cervical biopsies are discussed on the following slide.



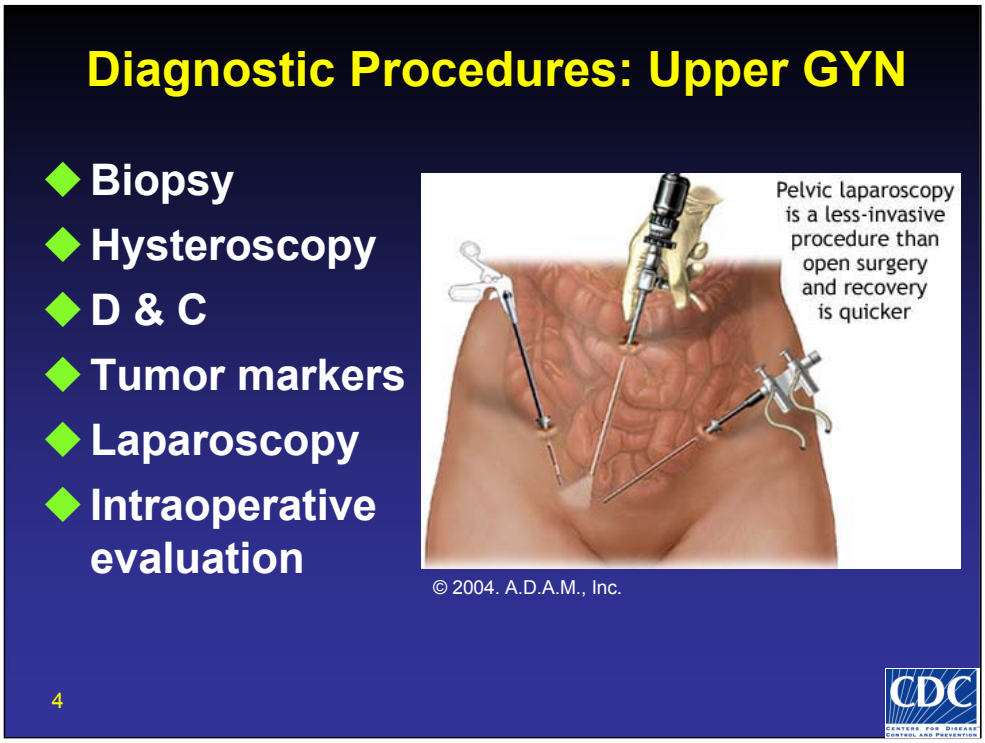
Most of the following information can be found in greater detail online in ACS Cancer Reference Information:

Colposcopic biopsy is assisted by a colposcope, an instrument that magnifies the tissue and makes lesions easier to see. A slightly acid solution can be applied to make abnormal tissue more visible.

Endocervical curettage uses a special instrument to scrape tissue from the endocervical canal. This procedure usually removes more tissue than a simple biopsy.

A common biopsy for cervical cancer is the cone biopsy, which removes a cone-shaped piece of tissue that includes the endocervical canal. The biopsy portion at the base of the cone is from the exocervical area of the cervix that protrudes into the vagina. The point of the cone is from deeper inside the endocervical canal. The canal portion removed by the cone includes the squamocolumnar transition zone where most cervical cancers originate. If the margins are clear, the cone biopsy is treatment and a diagnostic tool. If the margins are positive at the point of the cone, it means there is involvement of the endocervical canal and further treatment will be needed.

Two methods are used for cone biopsies. The LEEP (loop electrocautery excision procedure) method uses a loop of thin, heated wire to remove the cone. LEEP takes less time than the cold knife method (or cold cone) and requires only local anesthesia. The cold knife method uses a scalpel or laser to remove the cone and requires general anesthesia. LEEP can biopsy more of the ectocervix than the cold-knife method. Both are outpatient procedures.



Again, *ACS Cancer Reference Information* has the following information in more detail:

•Biopsies are commonly used to diagnose cancers that originate in the endometrium. Biopsies have limited value in diagnosing other upper GYN cancers because of the risk of spilling cancer cells into the peritoneal cavity. A hysteroscopy, which uses a tiny fiberoptic scope to look inside the uterus, can find sources of abnormal bleeding and areas of abnormal tissue to biopsy.

•Dilation and curettage (D&C) uses an instrument that scrapes out the tissue lining the uterus. More tissue is removed for examination than with biopsy. Curettage of the cervix is sometimes done at the same time.

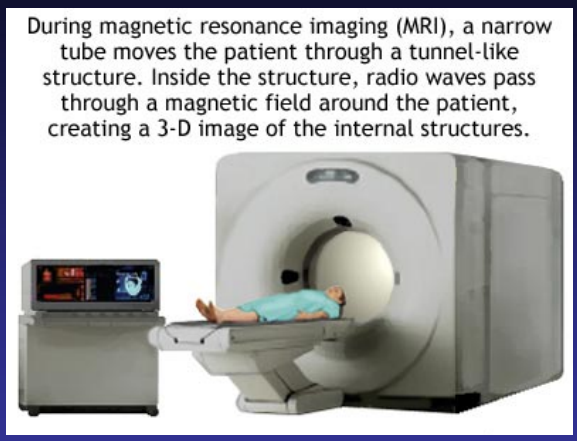
•CA-125 is a tumor marker for ovarian cancer. It is not specific enough (too many false positives) or sensitive enough (too many false negatives) to screen or diagnosis early-stage ovarian cancer by itself. Alone, the test finds only about 50% of Stage I ovarian cancers (http://pathology2.jhu.edu/ovca/ca125qa.cfm), and many nonmalignant conditions also cause elevated CA-125 levels. Its value is in supplementing other diagnostic information, testing for late-stage ovarian cancer and monitoring for possible recurrences.

•Human chorionic gonadotropin (HCG) is a tumor marker for gestational trophoblastic disease (GTD). Normal pregnancies also produce HCG, but levels are higher with GTD.

•Laparoscopy, used most often for GYN tumors thought to be benign, allows a physician to view inside the pelvic and abdominal cavities by inserting a laparoscope through a small incision in the wall of the abdomen. If ovarian cancer is suspected, National Comprehensive Cancer Network (NCCN) guidelines recommend exploratory laparotomy for intraoperative evaluation of the extent of tumor. A second-look laparotomy or laparoscopy is done after treatment to evaluate response.

Diagnostic Imaging

- Ultrasound (sonogram)
- Hystero-salpingogram
- CT
- MRI
- Chest X-ray
- PET



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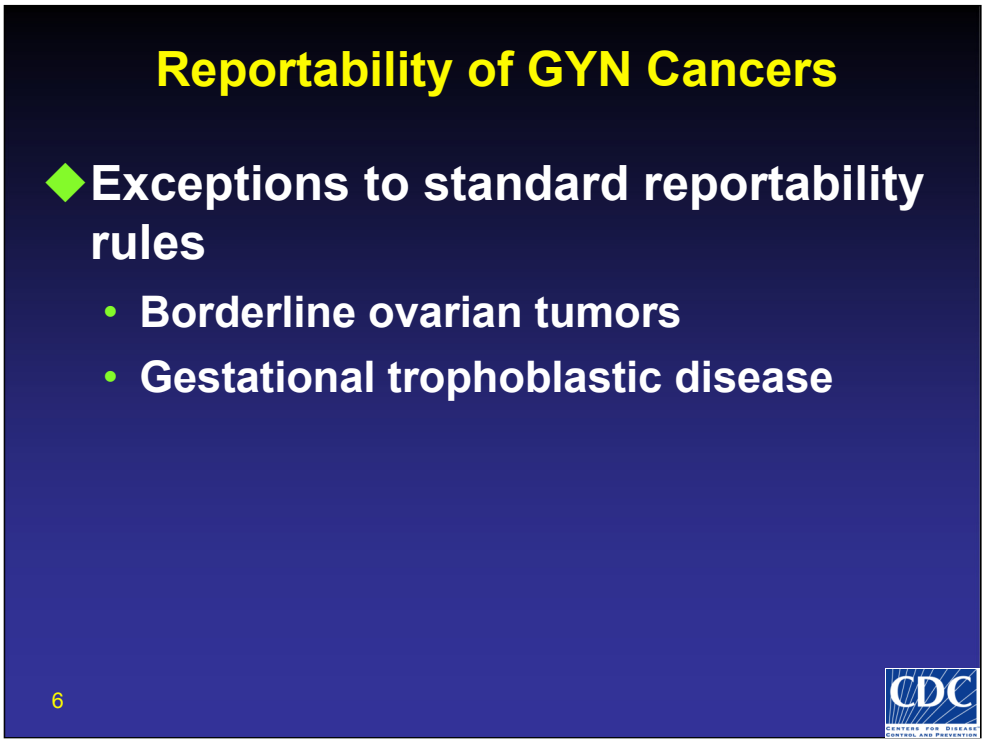
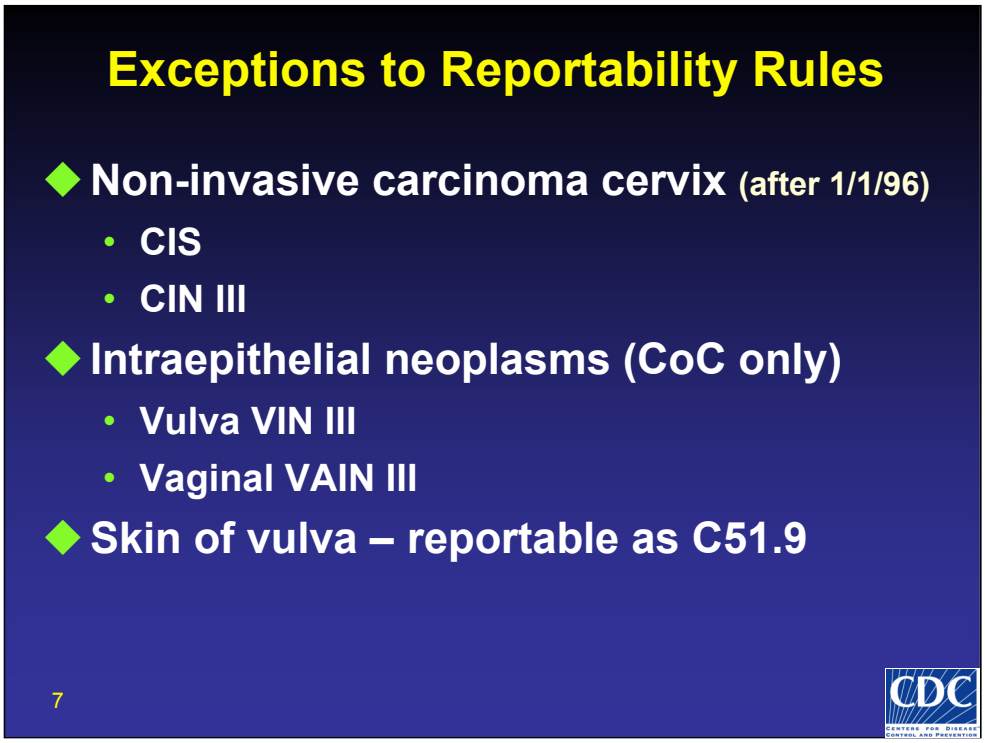
Ultrasound is frequently used in the diagnosis and staging of GYN cancers. The procedure involves filling the uterus with salt water, then inserting an ultrasound probe into the vagina. Ultrasound is most useful for finding tumors in the uterus, fallopian tubes and ovaries, and showing how deep in the wall tumors extend for any GYN site. It is also useful for telling the difference between a normal pregnancy and gestational trophoblastic disease, and the difference between cystic and solid tumors of the ovary.

Hystero-salpingogram uses a liquid contrast medium to make the uterus and fallopian tubes visible on X-rays. The contrast medium is used to fill the uterine cavity and fallopian tubes, and to give a clearer image than without contrast.

If palpation, biopsy or ultrasound indicates the lesion has invaded into the wall of the organ, CT or MRI of the pelvis and abdomen are recommended to clinically evaluate regional lymph nodes. CT or MRI is also effective in determining if the tumor has extended outside the original organ. If the cancer is suspected to have spread further, a chest X-ray and/or PET scan might be used. The PET scan shows areas of increased metabolism as lighter areas on the scan. Cancerous tumors usually have higher than normal metabolic rates, which makes them show up as bright spots on the scan.



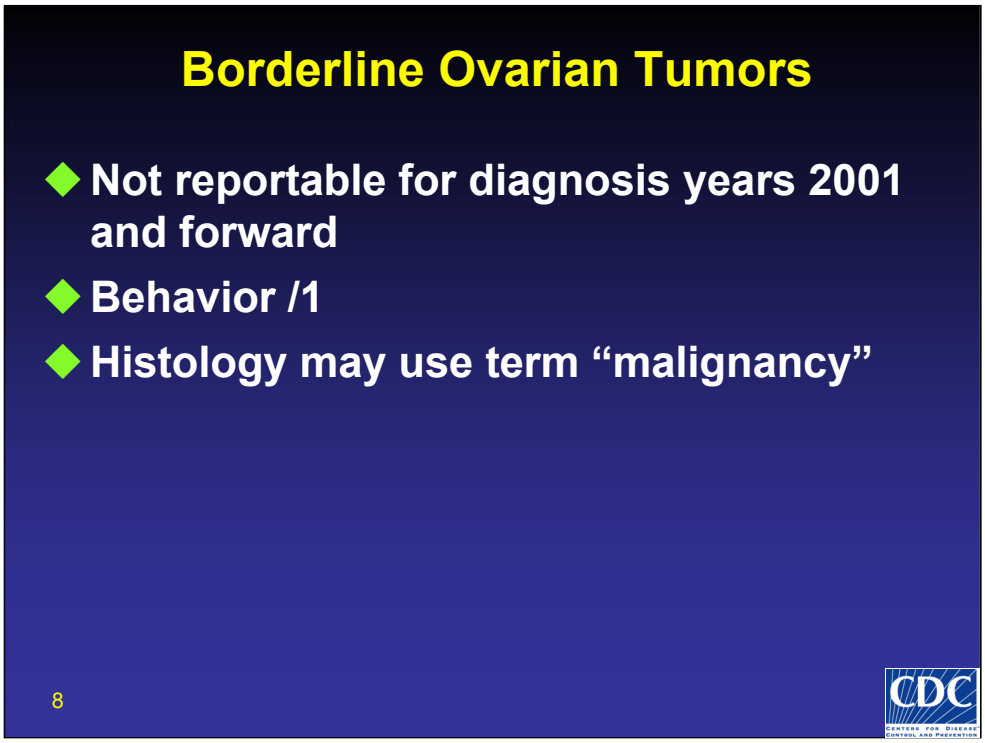
The standard rules for reporting cancers are that all invasive or in situ malignancies, behavior codes 2 and 3, are reportable. There are several exceptions and ambiguities among GYN cancers.



Carcinoma in situ and intraepithelial neoplasia grade 3 of the cervix both have a behavior code of 2 in ICDO-3, but neither is reportable to the Commission on Cancer (CoC) National Cancer Data Base (NCDB), the National Program of Cancer Registries (NPCR), or SEER for cases diagnosed on or after 1/1/1996.

Grade 3 intraepithelial neoplasms of the vulva (VIN III) and vagina (VAIN III), which also have a behavior Code of 2 in ICDO-3, are reportable for NPCR funded state registries and SEER, but are no longer reportable for NCDB as of 1/1/96. Behavior Code 2 is reportable for all other GYN sites.

Squamous cell and basal cell carcinomas of skin sites (C44) are not reportable. These histologies are reportable for skin of the vulva. ICDO-3 helps you remember by listing skin of the vulva as a vulvar site instead of a skin cite. Skin of the vulva is topography code C51.9.

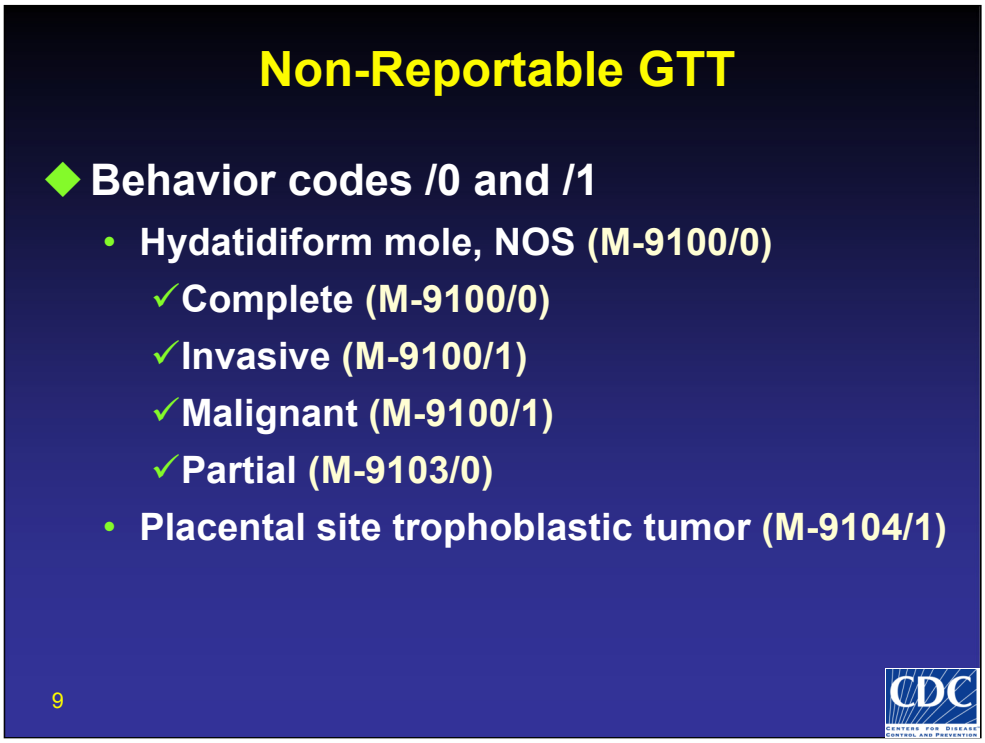


Ovarian tumors of borderline malignancy weren't reportable in the first edition of ICD-O, then they were reportable in the second edition, and now again they aren't reportable in the third edition. It seems obvious not to report them, because their behavior code is /1, but this slide is for experienced registrars with great long-term memories who remember being required to collect them. The only caution for those newer to abstracting is to not be confused by the term "malignancy" in the name of the histology.

Examples of the borderline histologies from ICD-O-3 that include "malignancy" in their name:

- Serous cystadenoma, borderline malignancy (M8442/1)
- Clear cell cystic tumor of borderline malignancy (M8444/1)
- Papillary cystadenoma, borderline malignancy (M8451/1)
- Mucinous cystic tumor of borderline malignancy (M8472/1)

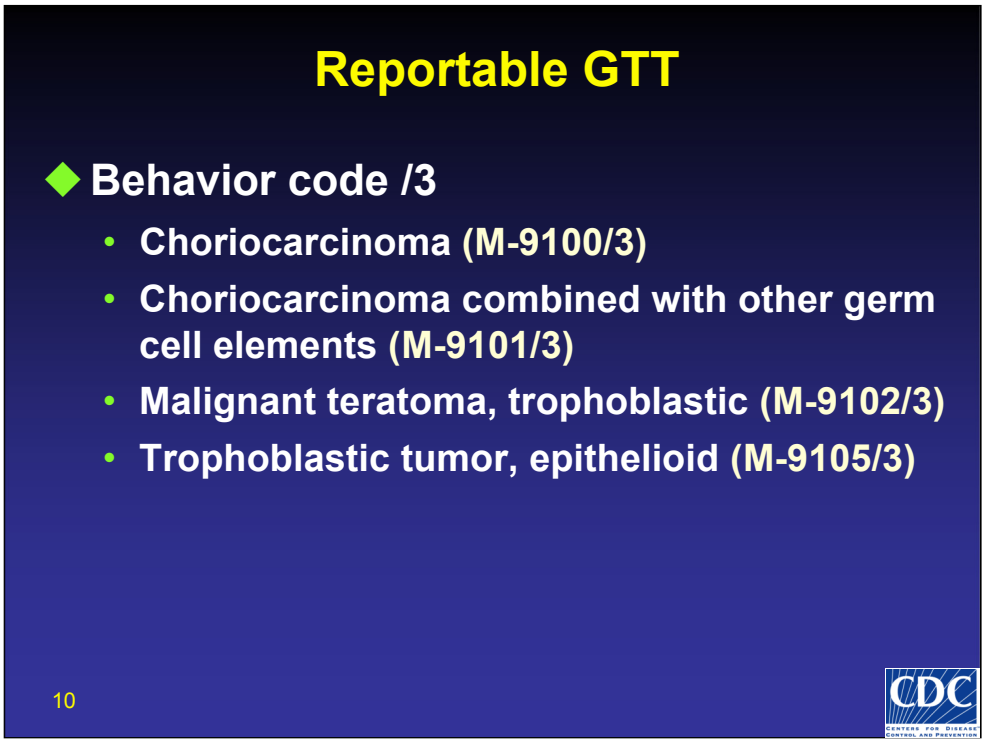
This information is very important to remember when retrieving data from long-established registries. The time period when borderline ovarian cancers were collected would show as a 'bump' in a trend line. Either note the reason for the increased number of cases or limit your analysis to behavior Code 3.



Hydatidiform moles normally are confined to the uterus lining and can be completely resected by a D&C procedure. A few moles invade into the uterine wall and are called invasive moles. They rarely metastasize and are easily cured with chemotherapy. They are not reportable, because the behavior codes are /0 and /1.

Caution: The GTT chapter in the *AJCC Cancer Staging Manual*, ed. 6, discusses hydatidiform moles, as well as choriocarcinoma and other malignant trophoblastic tumors. GTT tumors with benign, uncertain and malignant behaviors are all included in the list of histologies at the end of the chapter. This does not mean that all GTT are reportable. None of the hydatidiform moles are reportable, not even “malignant” hydatidiform moles.

Follow the behavior guidelines of ICD-O-3 (see next slide).



These histologies have a behavior code of 3, which makes them reportable. These tumors are much more aggressive than the non-reportable GTT. At one time they were considered incurable, then very effective chemotherapies were developed. Now all GTT tumors are highly curable with chemotherapy.

ICD-O-3 Topography Rule C

Point of Origin	Overlapping Subsites	Overlapping Sites	Code To
Known	No	No	Origin
Known	Yes	No	Origin
Known	n/a	Yes	Origin
Not known	Yes	No	[site].8
Not known	n/a	Yes	57.8
Exception Cervix/corpus	n/a	Yes	55.9

Rule C applies to single tumors only

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- ICD-O-3 RULE C states: “Use subcategory “.8” when a single tumor overlaps the boundaries of two or more categories or subcategories and its point of origin cannot be determined.” (Categories and subcategories refer to the codes for sites and subsites.)

- For GYN cancers, if the third characters of the topography code are different, they are different sites. If the third characters are the same, but the fourth characters (after the decimal) are different, they are the same site but different subsites.

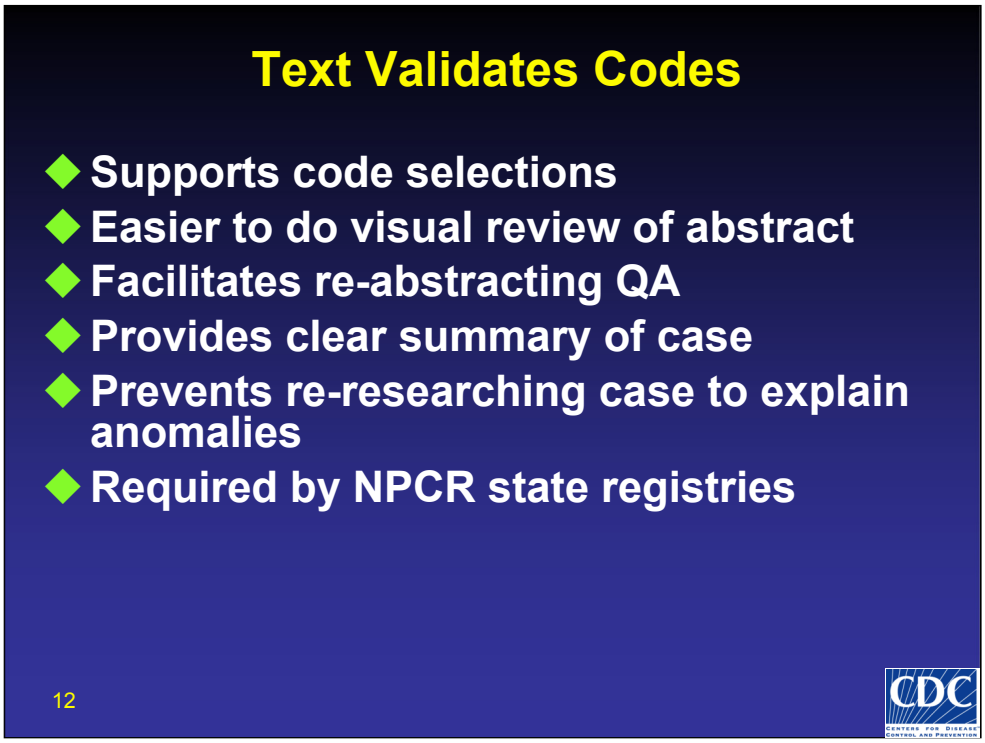
- If a single lesion overlaps subsites or sites, but the origin is known (i.e., documented by a physician), code to the site or subsite of origin. This would be unusual, but a physician might state an origin if the histology was more typical of one of the sites involved. An example would be a melanoma involving both the vulva and vagina.

- Lesions located at the squamocolumnar junction of the cervix are coded C53.8 because by definition they overlap the endocervix and the exocervix subsites.

- Vulva, cervix and corpus are the only GYN sites that have subsites and might need a code “.8”.

- Single lesions that overlap GYN sites, such as cervix and vagina, and “where no point of origin can be determined,” are codes to C57.8 (overlapping lesion of female genital organs).

- An exception to code C57.8 is when a lesion overlaps the cervix and corpus. Because these tumors are confined to the uterus, they are coded to C55.9, uterus NOS.



- It's easier and quicker to do quality control on an abstract if there is good text documentation along with the code selections.
- It's easier to answer questions about the case from the text documentation than from the codes.
- It's easier to do re-abstracting QA because you know what data to look for in the chart.
- Text documentation can explain anomalies in the case, saving endless hours if someone down the line requests and then questions the data.
- Text documentation is also required by state registries for these same reasons.

(Go to part 2.)

ICD-O-3 NOS and Multiple Tumors Rules

Origin	> 1 Tumor	Histology	Code
> 1 subsite	Yes	Same	[site].9
> 1 site	Yes	Same	Separate Primaries
Uterus, NOS	n/a	Yes	55.9
GYN, NOS	n/a	Yes	57.9
Any Gyn	yes	Different	Separate Primaries*

*Generally true but use the Multiple Primary and Histology Coding Rules to confirm individual cases

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- ICD-O-3 uses subcategory ".9" to indicate a cancer site where the subsite is not specified. This includes the following:

- Multifocal tumors with a single histology code originating in the same subsite, such as endometrium, or in a site that has no subsites, such as vagina, are counted as a single primary cancer and coded to the subsite.

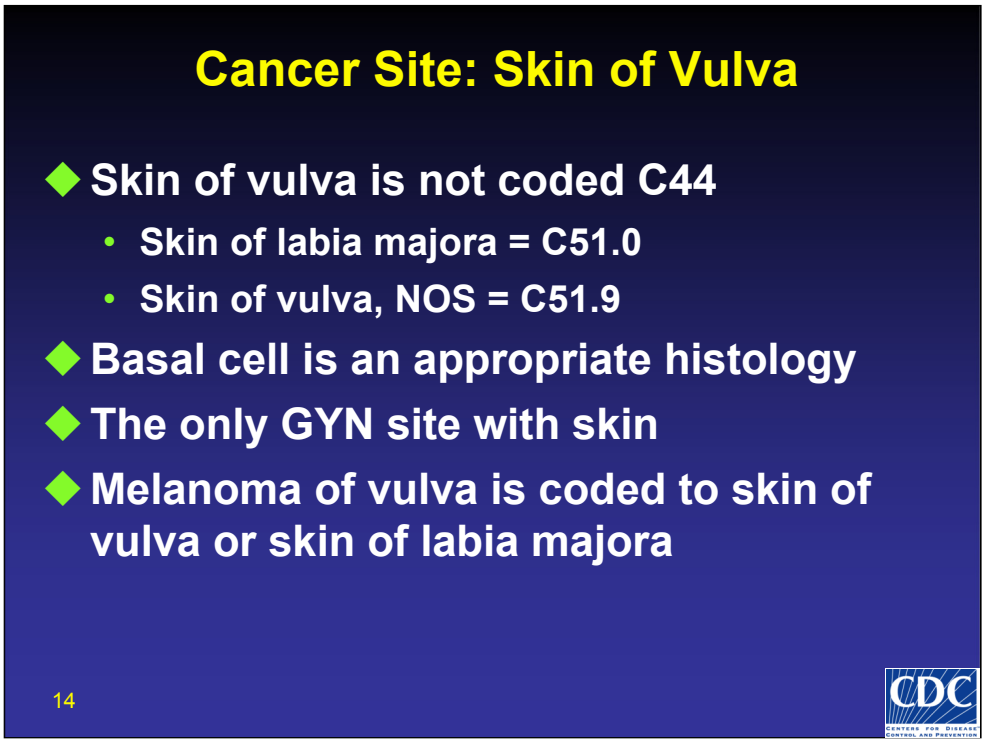
- Multifocal tumors of the same histology that occur in two or more subsites. Example: two lesions, both squamous cell carcinoma, one occurring on the clitoris and the other on the labium minus of the vulva would be C51.9 (vulva, NOS) and would still be considered a single primary.

- Single or multifocal tumors of the same histology where the site is identified, but a subsite is not specified are coded to the site and assigned a ".9" category. Example: a diagnosis or cervical cancer without an indication of a subsite would be coded to cervix, NOS (C53.9)

- Single or multiple tumors of the GYN system and a site is not specified are coded to Female Genital Tract, NOS (C57.9). The exception is when the lesion or lesions originated in the uterus, but neither of the sites cervix or corpus uteri was specified. Code these to uterus, NOS (C55.9). Avoid using C55.9, if possible. Try to determine the site of origin.

- Many times the histology will imply a primary site or subsite, but registrars must not assume the primary site because of histology unless indicated by ICDO-3 or the physician. Code the primary site as documented or use the appropriate NOS code.

- Multiple Primary and Histology Coding Rules became effective with cases diagnosed January 1, 2007, and later. These rules should be used to resolve ambiguities with determining cancer sites and histology. If there are multiple tumors with different histologies, and there is no multiple primary rule to indicate a single primary, then each different histology is abstracted as a separate primary.



Cancers of the skin of the vulva are coded with a vulva topography code (C51._) and not with a skin topography code (C44).

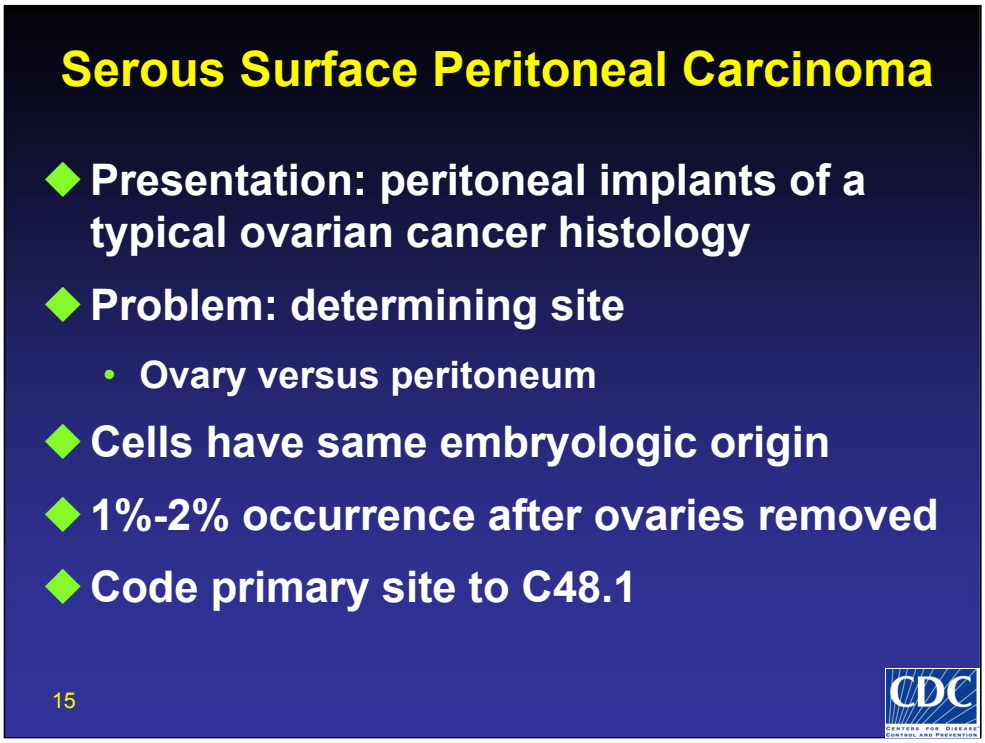
•Cancers that arise from skin of the labia majora (also called labia majus) of the vulva are coded to C51.0.

•Cancers that arise from skin of the vulva, NOS, are coded to C51.9.

Skin of the vulva is one of the few situations where you might collect a basal cell carcinoma. Basal cell and squamous cell carcinomas are not reportable for skin sites (C44), but both histologies are reportable for skin of the vulva. Squamous cell carcinoma is the most common histology for all vulvar tissues, including skin.

The vulva is the only GYN site with skin. Melanomas of the vulva are coded to either the skin of the labia majora or the skin of the vulva, NOS, whichever is documented.

It would be extremely rare for a melanoma to arise in the vagina and extend to the vulva, but it is possible. If a vaginal primary site is documented in the medical record, code the melanoma to the vagina. If it is impossible to determine the original site, code it to skin of vulva, NOS.



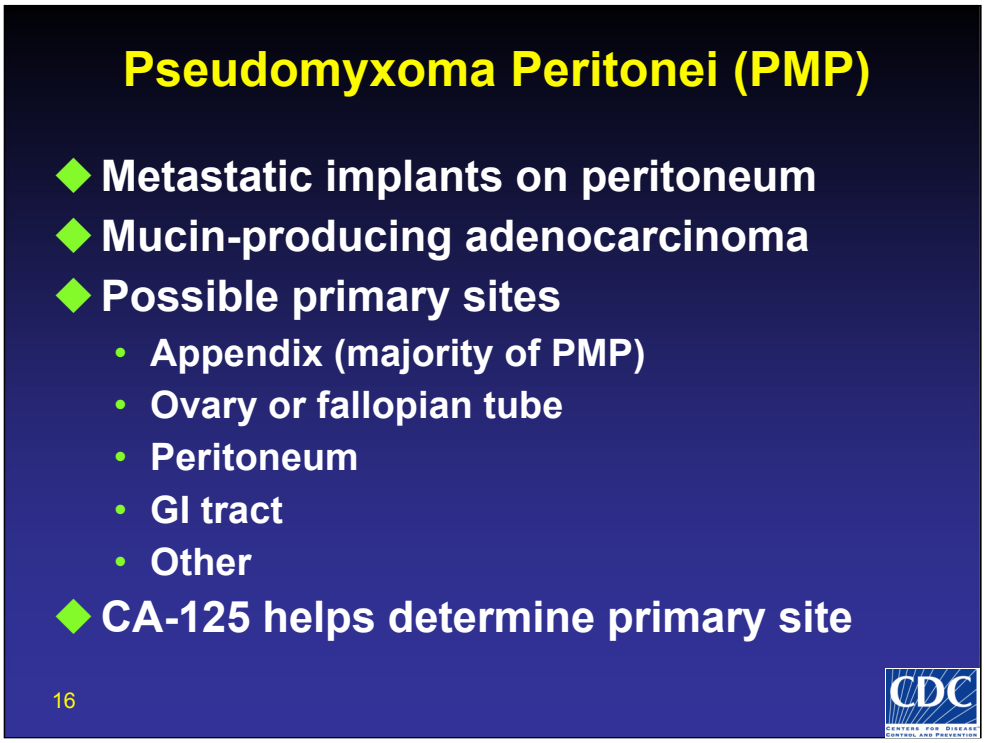
Primary peritoneal carcinomas (also known as serous surface peritoneal carcinoma or serous surface papillary carcinoma) are ovarian histologies that originate in the peritoneal cells lining the pelvic and abdominal cavities, and covering most of the organs of the pelvis and abdomen. Primary peritoneal cells and ovarian epithelial cells originate from the same tissue developed from the embryo.

Primary peritoneal carcinoma clinically presents like a Stage II or higher ovarian cancer. It is usually diagnosed only by examining the ovaries and eliminating them as sources of the cancer. If the ovaries are uninvolved or involved only by having implants on their surface, primary peritoneal carcinoma is suspected.

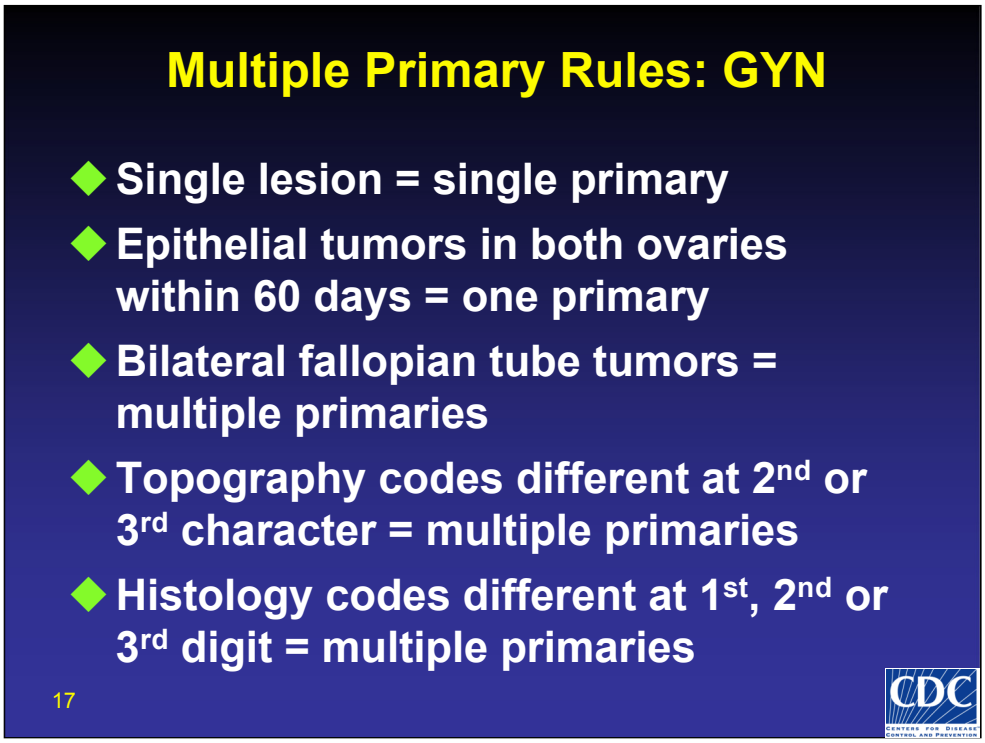
Patients that had prophylactic bilateral oophorectomies because of a strong family history have been shown to still have a 1% to 2% risk of incurring primary peritoneal cancer.

Treatment of primary peritoneal cancer and ovarian cancer is pretty much the same.

Code primary site to pelvic peritoneum, NOS (C48.1), not to ovary.

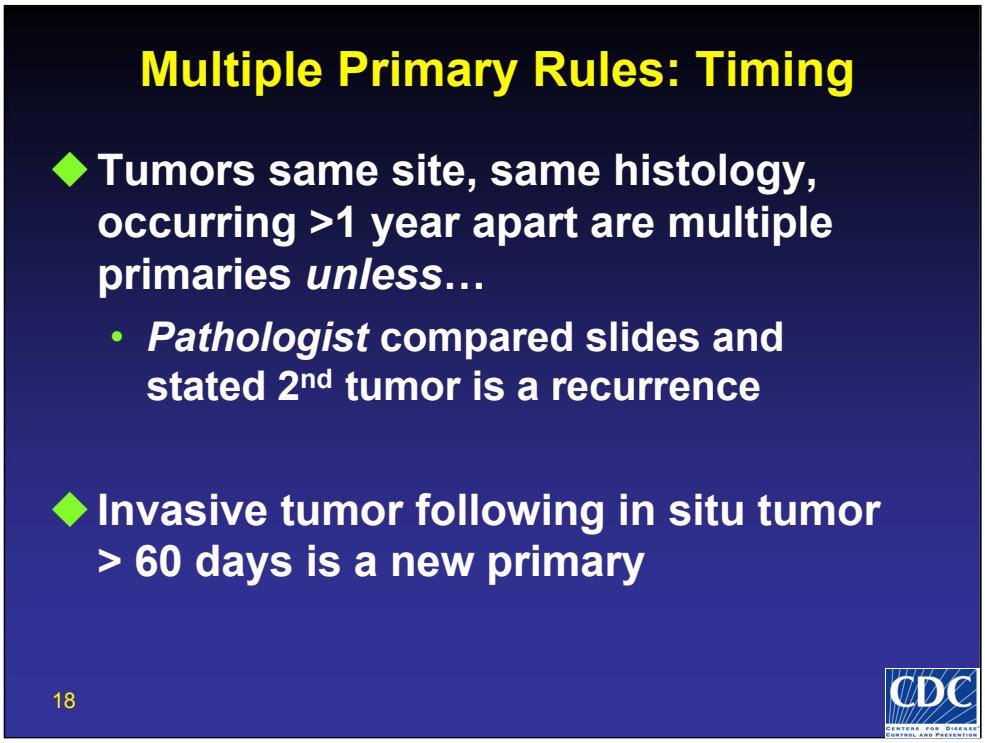


- Pseudomyxoma peritonei (PMP) is typically a well-differentiated, mucin-producing adenocarcinoma metastatic to the peritoneal lining. Clinically it is similar to peritoneal implants from Stage II or higher stage ovarian carcinoma.
- Some common histologies associated with PMP are cystadenocarcinoma and mucinous adenocarcinoma, which sometimes creates so much mucin in the abdominal cavity, the mucin collects in puddles in the lower pelvis.
- According to the CoC's Inquiry and Response system, PMP histology is to be coded as 8480/3 (pseudomyxoma peritonei). It's more important to code the condition than the specific histology causing the condition.
- The main difficulty is determining the primary site. Because of its similar histology, PMP was once thought to be ovarian primaries. According to the National Cancer Institute, recent evidence indicates the majority of PMP originates in the appendix. It can originate from almost any glandular organ including the ovary, fallopian tube, peritoneum, GI organs, breast and lung.
- Pathological examination and tumor markers are helpful in making a diagnosis. Elevated levels of CA-125 could indicate a GYN or primary peritoneal origin.
- Treatment is usually cytoreduction and chemotherapy, and depending on the extent of the tumor, might involve removal of involved organs and stripping the peritoneum from vital organs that cannot be removed. Recurrences are common and could require additional surgeries.

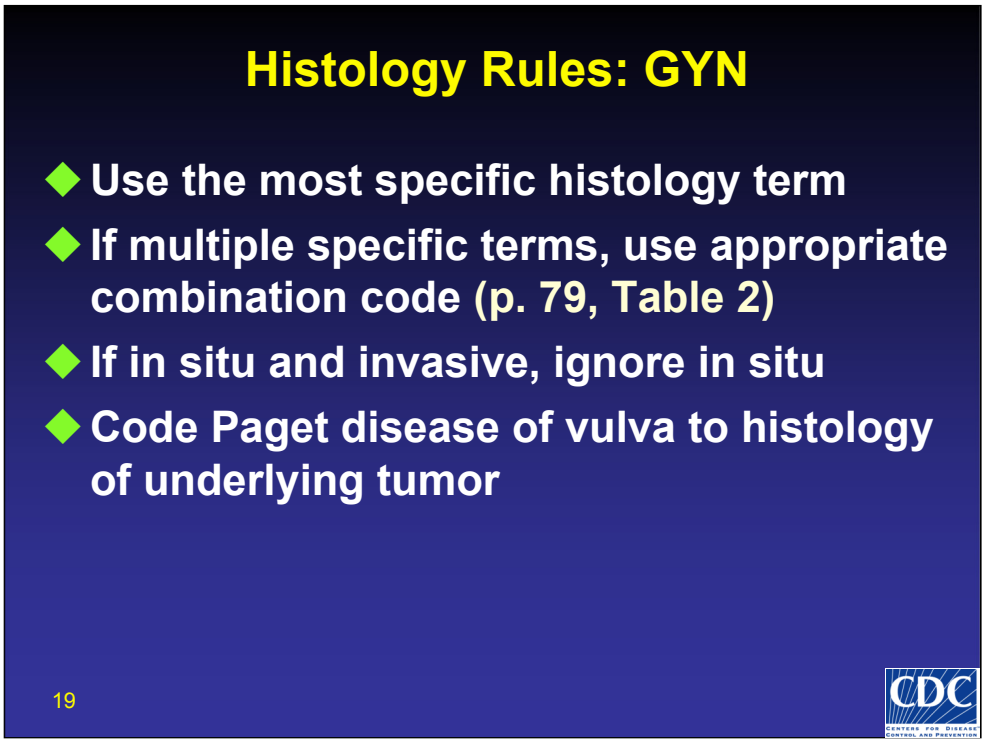


- GYN cancers use the multiple primary and histology rules for "other sites." A single lesion is always a single primary even if it extends onto adjacent sites (Rule M2).
- Bilateral tumors in the ovaries are a single primary if they are both epithelial tumors (8000-8799) and if they occur within 60 days of each other (Rule M7).
- Fallopian tube cancers are not mentioned in Rule M7 and fall under Rule M8, which states that separate tumors involving both sides of a paired site are multiple primaries. Ovaries and fallopian tubes are the only paired GYN sites.
- Multiple tumors with topography codes that differ at the 2nd or 3rd character are multiple tumors (Rule M11). For example, a squamous cell carcinoma of the vulva, NOS, is site code C51.9 and a separate squamous cell carcinoma of the vagina is code C52.9. The site codes differ at the 3rd character, so each tumor is a different primary and would be abstracted separately.
- If multiple tumors are stated to be a non-specific histology and a more specific histology of the same type, they are a single primary and are coded to the more specific histology (Rule M16).
- Histology codes that are different at the 1st, 2nd or 3rd digits are separate primaries (Rule M17).

Always remember to stop at the first rule that applies.



- A GYN tumor in the same site with the same histology as a previous tumor is assumed to be a multiple primary if it occurs more than one year after the diagnosis of the first occurrence – even if the attending physician states the tumor is a recurrence (Rule M10).
- This assumes a disease-free interval during most of that time. If the cancer is never completely eradicated, it is the same primary.
- If a new GYN cancer occurs over a year after a previous diagnosis of cancer in the same site, coding it as a recurrence requires a pathologist's review and stated opinion that the new tumor is a recurrence. Otherwise, it will be a subsequent primary. Previously, tumors diagnosed only 60 days apart were considered multiple primaries unless a physician stated it was a recurrence.
- The 60-day rule still applies to invasive tumors following an in situ tumor (Rule M15). The second tumor is a new primary even when physicians' documentation calls the invasive tumor a recurrence or progression. If an invasive tumor follows an in situ tumor in fewer than 60 days, ignore the in situ tumor and code the tumor as a single primary using the invasive histology.
- Abstractors should become familiar with the new multiple primary and histology coding rules and refer to them as they abstract cases. Remember to read the rules in order and to stop reading rules as soon as you find one that fits the situation.

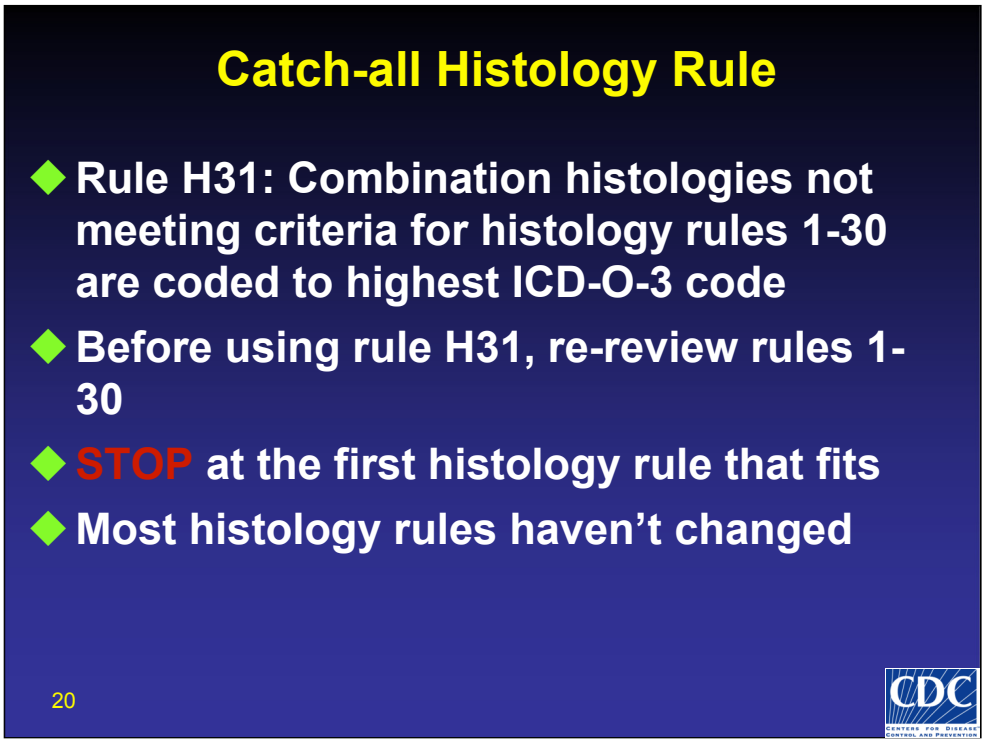


Rules H4 (for in situ lesions), H13 (for single invasive lesions) and H29 (for multiple lesions abstracted as a single primary) are used for determining the correct histology code when both a specific histology and a non-specific histology are mentioned in the path report for the same tumor. Example: A pathologist describes a tumor or tumors as adenocarcinoma, NOS, and also calls the same tumor(s) mucinous adenocarcinoma. Code the more specific term (mucinous adenocarcinoma).

When multiple histologies are used to describe a tumor; for example, clear cell adenocarcinoma and endometrioid carcinoma, and there is an applicable combination histology code, use the combination code (Rules H7—in situ, H13—single invasive lesion, or H29—multiple lesions abstracted as single primary). In this case, the code would be 8323, mixed cell adenocarcinoma. Refer to Table 2, Equivalent Terms and Definitions section, Other Sites, p. 79 in the *Multiple Primary and Histology Coding Rules* manual for a list of combination histologies.

When there are invasive and non-invasive components in a tumor, ignore the non-invasive histology and code only to the invasive histology.

In the case of Paget disease of the vulva with an underlying tumor, code only the histology for the underlying tumor.



The multiple primary rules have a final catch-all rule; so do histologies. For histologies, the final rule is to code to the numerically highest ICD-O-3 code if none of the preceding rules fit the case.

Note that this rule is number 31, and that we have not covered all of the other 30 rules in the preceding slides. The reason is that most of the histology rules are the same ones you've used before, but they have been clarified and prioritized in the *MPH Manual*. To know which rules are different, you need to read the manual and refer to it every time you have a question on which histology to use.

Read the rules in sequential order and don't forget to **stop** at the first one that fits your case.

Histology Sources

- Best: histology on path report
- Next best: cytology on cytology report
- Only code terms in the final diagnosis

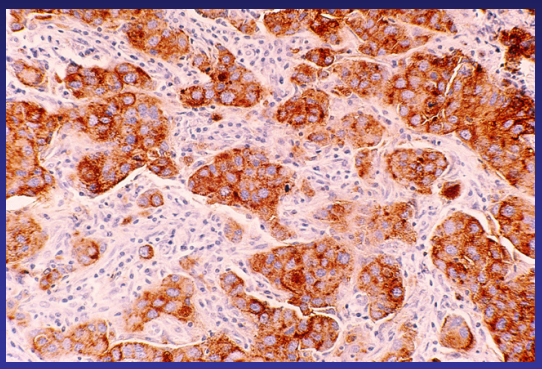


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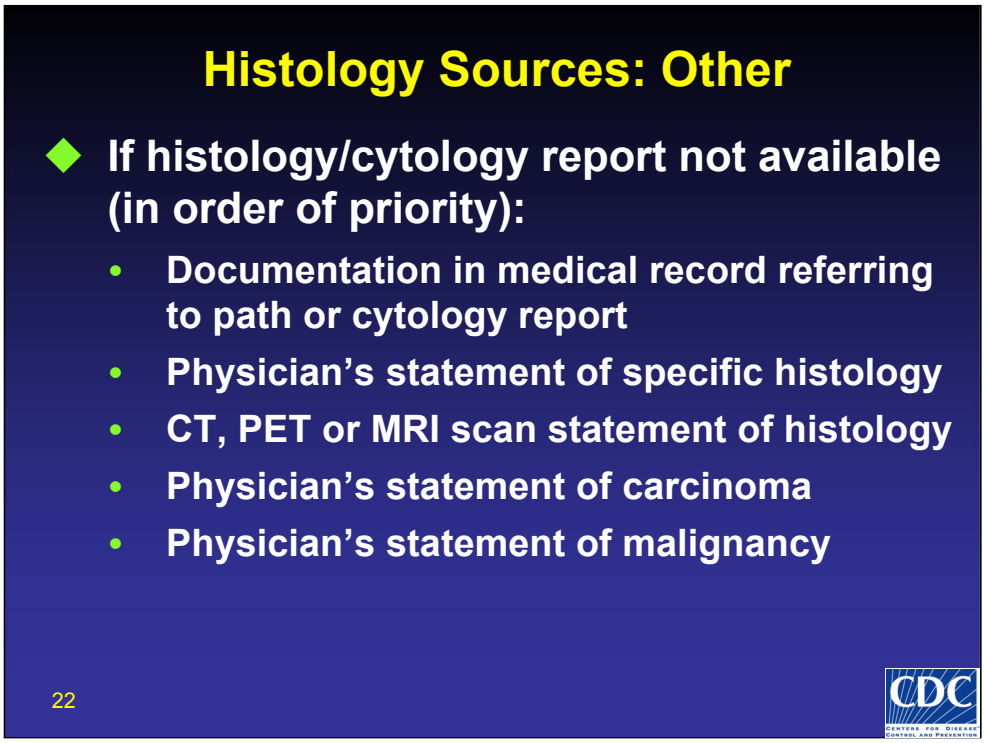
Image source: National Cancer Institute

Use the hierarchy in the manual to determine the best source of information for histology. The best source, of course, is a path report. Path reports, the first priority, provide the results of tissue examination. Second priority is a cytology report. Cytology is the examination of individual cells and lacks the information gained by viewing the organization of the cells into tissue.

Remember to use only the information from the final diagnosis on the report.



If a histology or cytology report is not available, use the sources on the slide in priority order. These are from Histology Rules H1 (in situ lesions), H8 (single invasive lesion) or H18 (multiple lesions).

It would be unusual to get a histology reference from an imaging report more specific than "carcinoma," "cancer" or "malignant." Remember, tumor, mass, and neoplasm are not cancer terms.

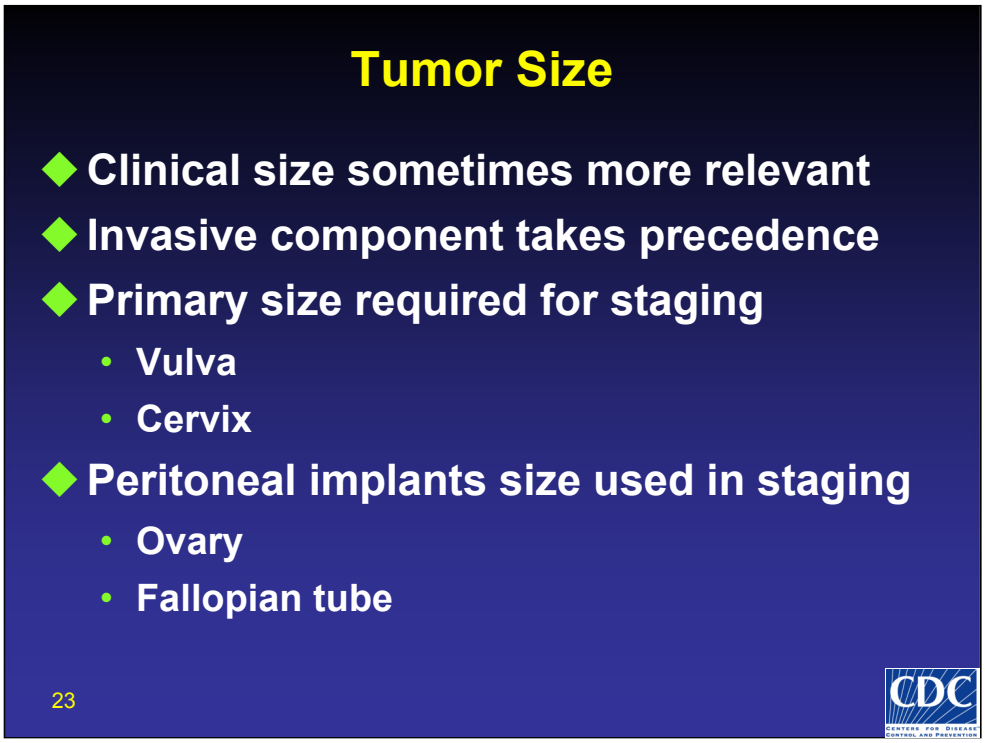
Item 2 is higher priority than items 5 or 6 although they sound similar.

❖Item 2 includes a physician's statement of a specific histology, for example papillary carcinoma. The specificity implies the information came from a path report.

❖Item 4 refers to a statement like "GYN carcinoma," which is a general term but more specific than the term "cancer."

❖Item 5 refers to physicians' general statements of malignancy as in "most likely cancer" or "malignant-looking mass."

❖Item 3 should probably include ultrasound (sonography) for GYN cancers. *ACS Cancer Reference Information* on diagnosing GTT states that "Ultrasound can identify most cases of GTD…The echoes produced by GTD are fairly recognizable."

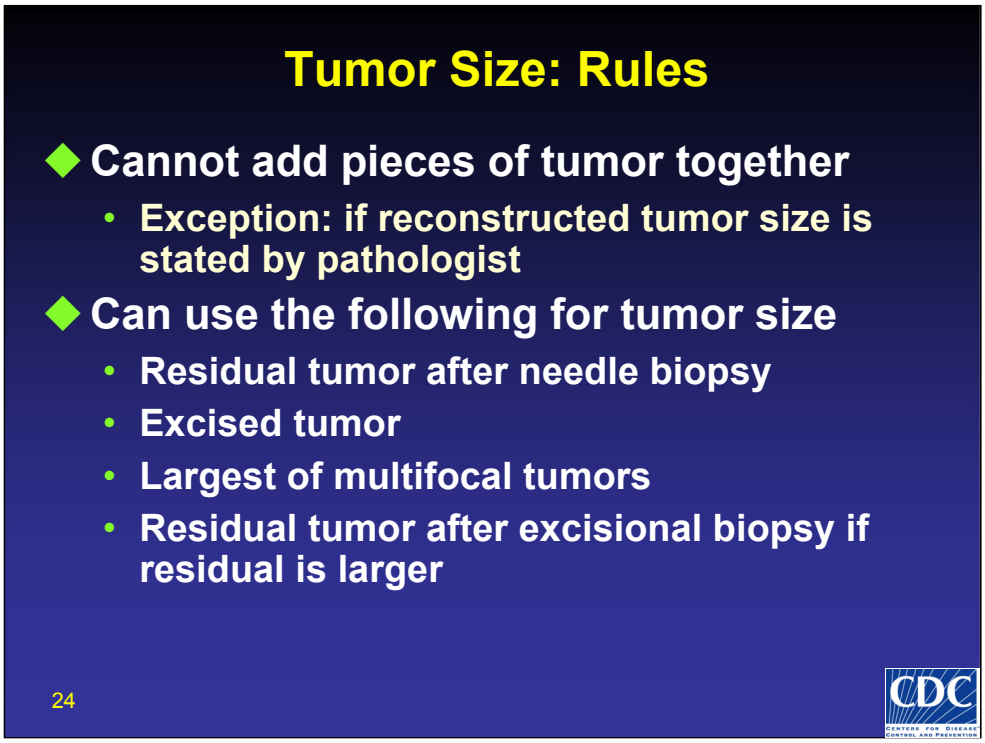


Tumor size is the diameter or longest dimension of the lesion. If the lesion has both invasive and non-invasive components, the size of the invasive component is recorded. If the size of the invasive component is unknown and the size of the entire lesion is known, code the stated size. If there is no invasive component, the size of the in situ lesion should be recorded. Document in a text field which information was used to record size and why.

Collaborative staging collects the most extensive tumor size, which is sometimes the clinical size. Clinical size is often more relevant when...

- Clinical size influences treatment decisions.
- Clinical size is more representative of the greatest extent of tumor. In this situation, use clinical size also for collaborative staging. For instance, if neoadjuvant therapy shrinks the tumor to make it more resectable, record the size prior to the start of treatment.
- The tumor is removed incompletely or in pieces and pathological size cannot be determined.

Tumor size is required for staging vulvar and cervical tumors. Although tumor size is not used for *staging* every GYN site, size is still *collected* for every site. The size of peritoneal implants is required for staging metastatic ovarian and fallopian tube cancers. This information is collected in the CS extension fields, not in the Mets at Dx field.

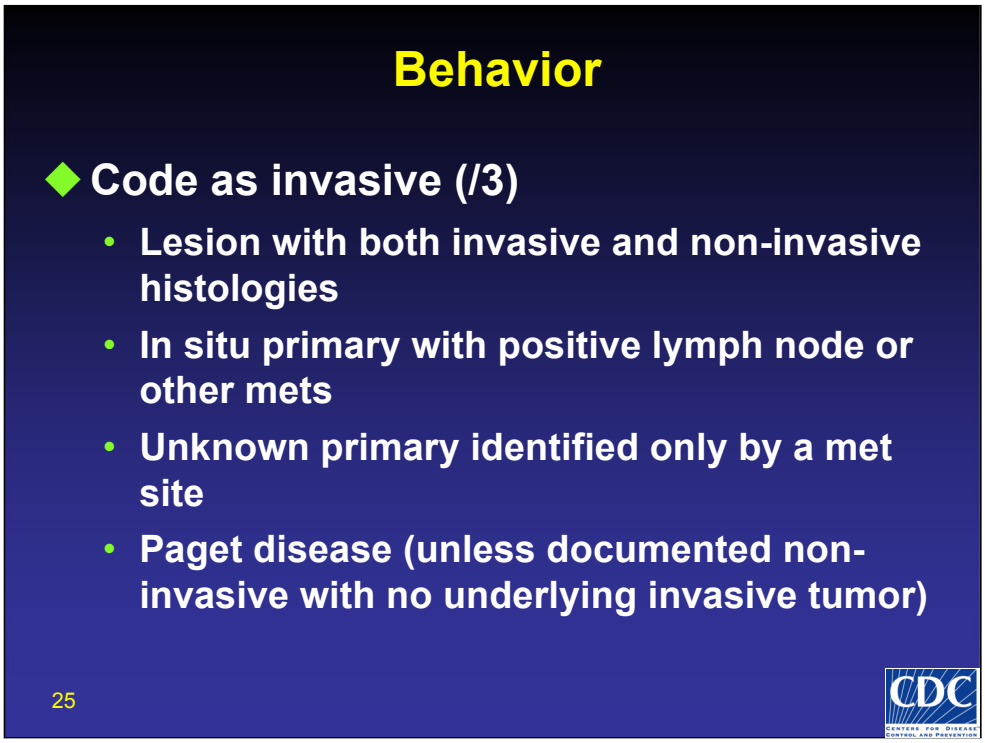


Neither the registrar nor the attending physicians should add the pieces of tumor together to get tumor size because there is no sure way to tell how the pieces were configured in the original lesion.

The exception is that the size of a reconstructed tumor can be used if the pathologist does the reconstructing. A physician's statement of reconstructed size that states or implies the information came from the pathologist would also be acceptable.

In addition to a completely resected tumor, other measurements can be used to determine tumor size. For example, the size of the residual tumor after a needle biopsy can be used. Excisional biopsies are still excisional biopsies even if the margins are microscopically positive. FORDS states that the size of residual tumor after an excisional biopsy can be used for tumor size if the residual tumor is larger than the excisional biopsy.

In the case of multiple synchronous tumors in the same site, the largest tumor is used for tumor size. The separate tumors are not added together. Multiple foci of microinvasion, where no area of invasive tumor is larger than 1 mm, is a similar situation. The foci are not added together.



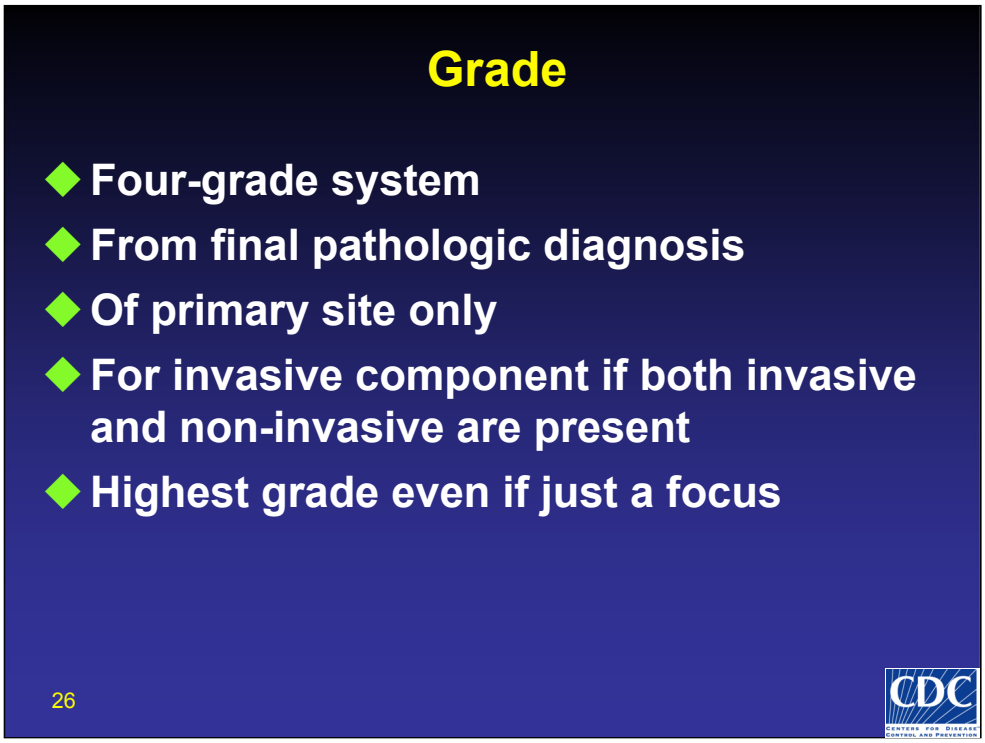
Coding behavior is usually an unambiguous situation of coding invasive or non-invasive information from the medical record, but not always.

•Combinations of invasive and non-invasive histologies are always coded invasive.

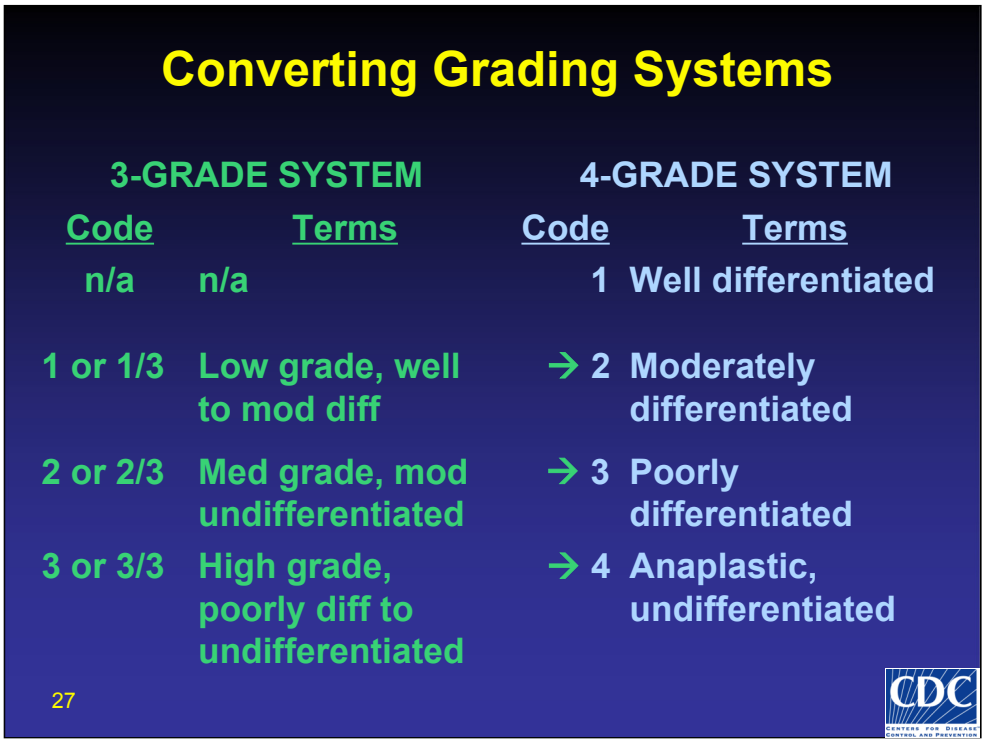
•A non-invasive primary tumor with involved regional lymph nodes or mets is coded invasive. The assumption is that an area of possible invasion was missed during the pathological examination of the primary. A tumor in involved regional nodes and/or metastases is clearly invasive.

•Unknown primaries stated to have GYN origins are always coded invasive.

•Paget disease is always coded invasive unless the path report states the Paget disease is non-invasive and any associated underlying carcinoma is also non-invasive.



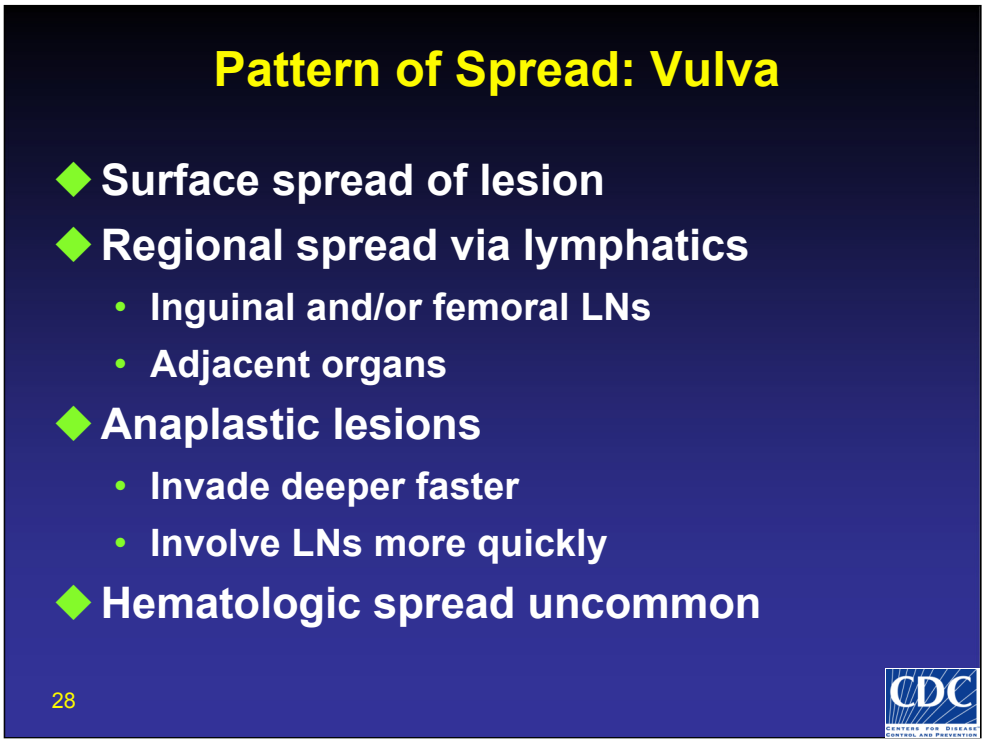
- GYN cancers are graded with a four-grade system. If your pathologist uses a three-grade system for GYN, you will need to convert it (instructions on next slide).
- Code grade only from the primary site tumor. If grade is not given for the primary site tumor, but is given for a metastatic site, code grade as unknown (Code 9).
- Code the grade in the final diagnosis from the path report or cytology report. Use the grade mentioned in the microscopic section of the report only if it is not mentioned in the final diagnosis. If mentioned in both sections and the grade terminology in the microscopic section indicates a higher grade than that in the final diagnosis, code the grade in the final diagnosis.
- If a tumor has both an invasive component and a non-invasive component, code the grade from the invasive component. If the grade from the invasive component is not known, code grade as unknown (Code 9) even if the grade of the non-invasive component is known. If the lesion is entirely non-invasive and grade is provided, code the in situ grade.
- Code the highest grade provided. For example, if the path report says well differentiated carcinoma with a small focus of moderately differentiated squamous cell carcinoma, code as Grade 2 squamous cell carcinoma.



Abstractors are required to collect grade for GYN cancers using a four-grade system. Pathologists at your facility might use a three-grade system to grade GYN cancers in the path report. The table on this slide illustrates how to convert a three-grade system to a four-grade system. This information is also on page 14 of the current 2007 FORDS manual.

One way to convert is to remember that the three grades of the three-grade system match the highest three grades of the four-grade system. Simply ignore grade 1 (well differentiated) in the four-grade system and match the remaining three grades to the three grades in the three-grade system. Another way is to increase the numeric code in the three-grade system by one.

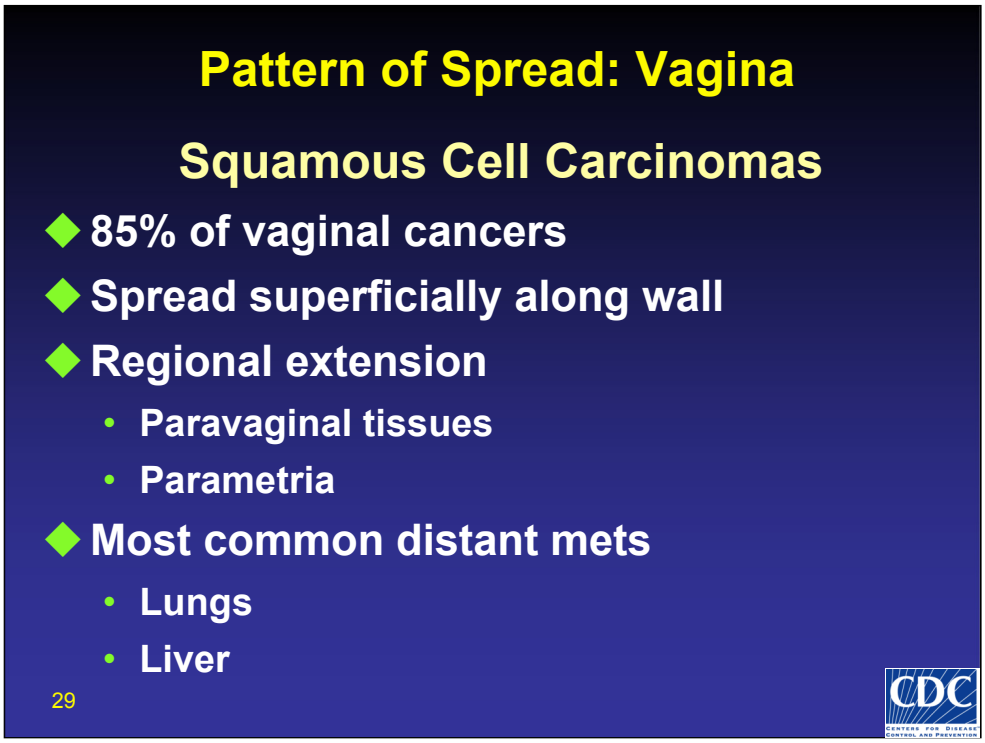
The fraction is a way of displaying which grading system is being used. Grade 2-slash-3 (looks like 2/3) means grade 2 in a three-grade system. Grade 2-slash-4 (2/4 – not shown on the slide) means grade 2 in a four-grade system.



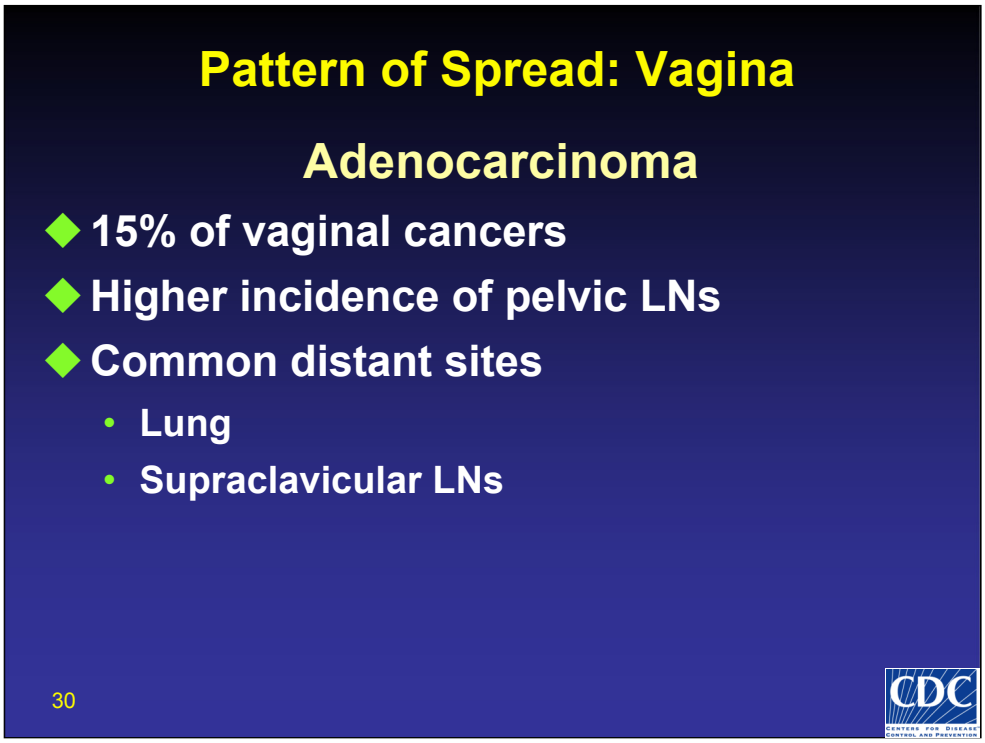
Per NCI Cancer Topics, vulvar lesions normally spread by direct extension and through the lymphatics. Well differentiated lesions tend to spread superficially on the vulvar surface. Less differentiated (higher grade) lesions invade deeper tissues more quickly and spread to lymph nodes sooner.

Typically, the first lymph node chains to become involved are the inguinal nodes and then the femoral nodes. About 30% of vulvar lesions that spread to regional nodes are still operable. Five-year survival of cancers with negative nodes and lesions 2 cm or smaller is about 98%. That drops to 29% if three or more nodes are involved.

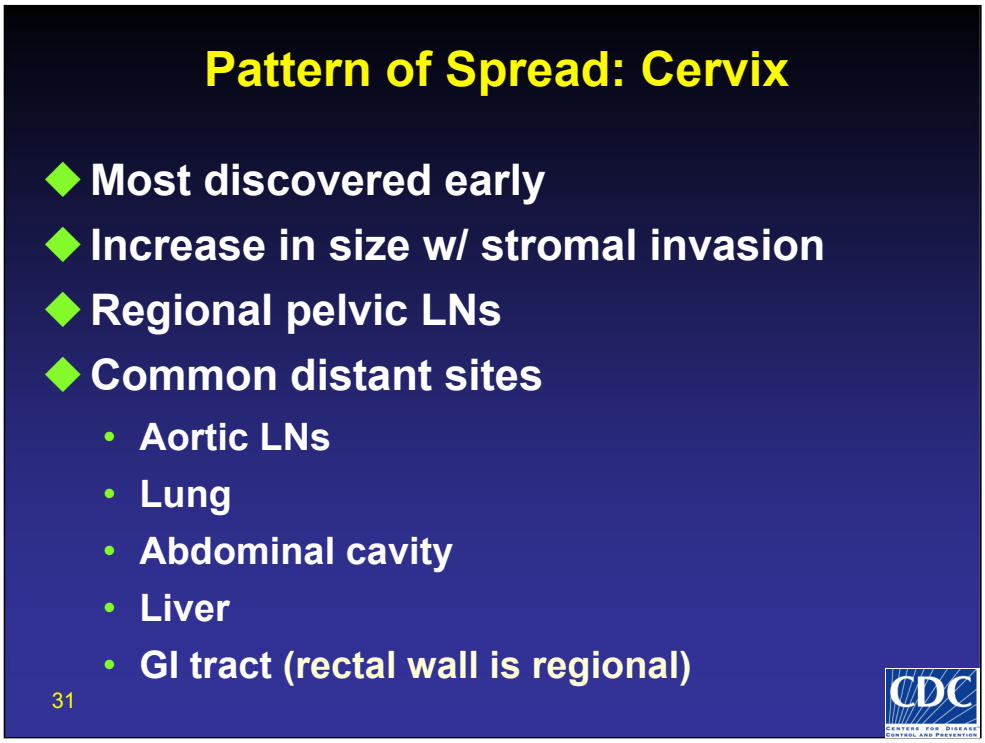
Hematologic spread through blood vessels and distant mets is not common. Fortunately, because vulvar lesions are external, many are diagnosed at an early, operable stage through regular GYN exams.



Per NCI Cancer Topics, squamous cell carcinomas account for 85% of vaginal cancers. Fortunately, they are normally not aggressive. They tend to spread along the walls of the vagina, invading later. Regional extension is usually to paravaginal tissues and the parametria. The most common distant sites are lungs and liver.

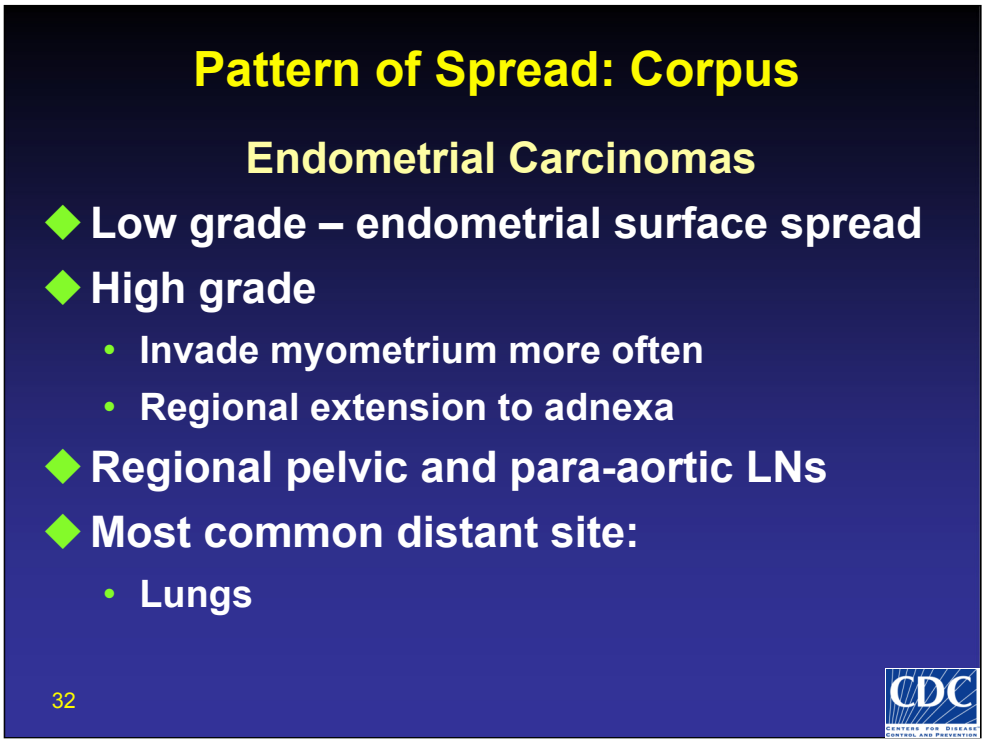


Also per NCI Cancer Topics, adenocarcinomas account for only 15% of vaginal cancers but they are more aggressive than squamous cell cancers of this site. They have a higher incidence of pelvic node involvement and regional extension. When they metastasize, they frequently spread to the lung and supraclavicular nodes.



Cervical cancers, if left untreated, can result in large, bulky primary tumors. Besides increasing in tumor size, they invade deep into the stroma. They metastasize to regional pelvic lymph nodes and to distant aortic and para-aortic lymph nodes. Regional involvement includes extending to organs within the pelvis and also includes the bladder wall or rectal wall. Bladder mucosa and rectal mucosa are distant. Organs outside of the pelvis and other areas of the GI tract are distant.

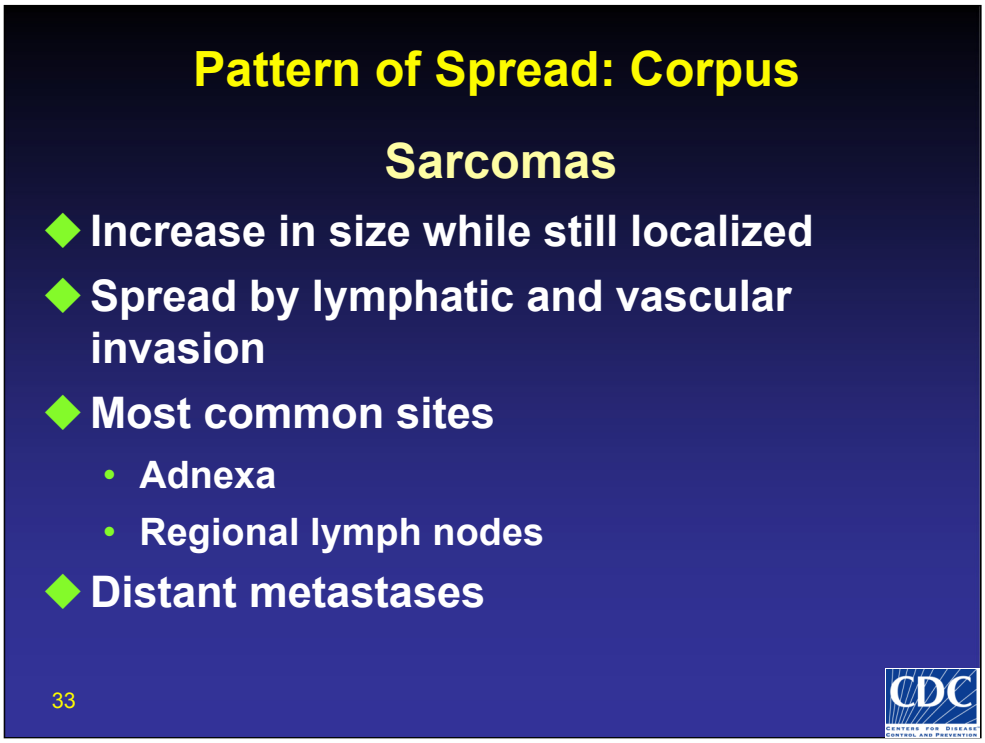
Fortunately, the majority of cervical cancers are caught very early with PAP smears. At this stage they are easily treated.



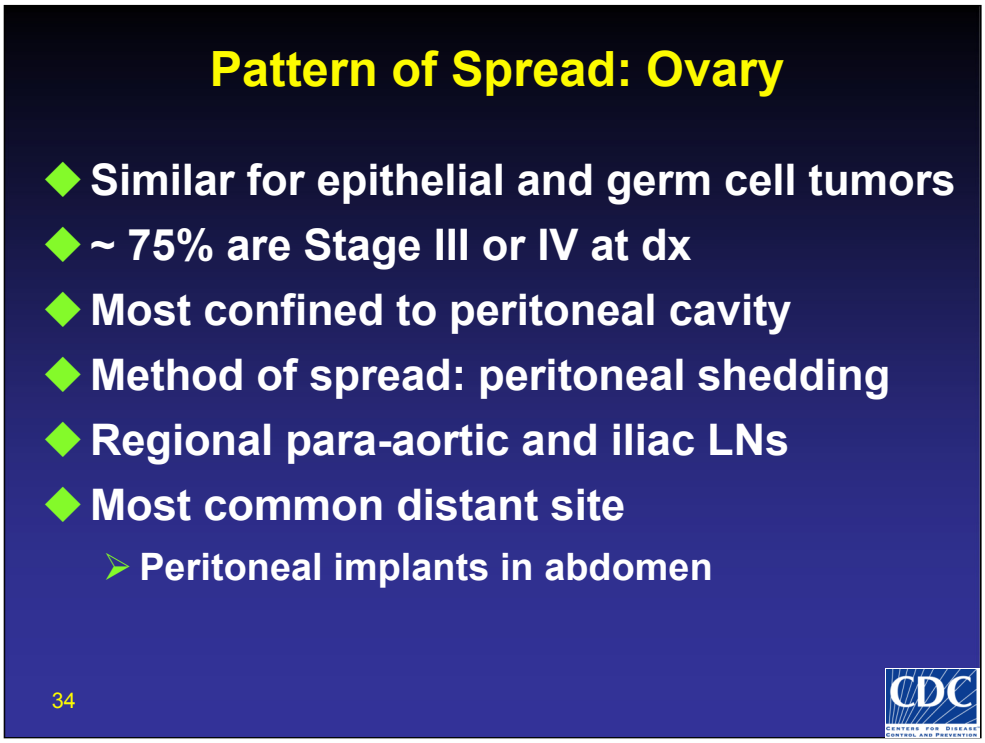
Per NCI Cancer Topics, well-differentiated endometrial lesions in the corpus uteri often limit their spread to expansion over the surface of the endometrium.

High grade lesions become more invasive, spread more quickly, and invade the myometrium. How deep the invasion goes into the myometrium is a fairly good predictor of regional lymph node involvement. Grades 2 or 3 tumors that invade less than 50% into the myometrium have less than a 10% risk of regional lymph nodes. High-grade lesions, Grade 4, that invade more than 50% into the myometrium have up to a 60% risk of lymph node involvement.

Para-aortic lymph nodes are regional for uterus. Endometrial cancers most commonly spread to regional pelvic and para-aortic lymph nodes. The most common distant site is lung, but metastases to the liver, inguinal, supraclavicular lymph nodes, bones and brain are not uncommon.



Sarcomas, especially leiomyosarcomas, often remain localized, although they increase in size. Prior to invasion of the lymphatics and blood vessels in the wall of the uterus, these lesions are curable by surgery. The five-year survival for Stage I sarcoma that has not spread outside the uterus is only 50%. For other stages, five-year survivals are 20% or less. Regional spread is to the adnexa and to regional lymph nodes. Spread can occur to distant lymph nodes via the lymphatics and/or distant sites via lymphatic or vascular spread.



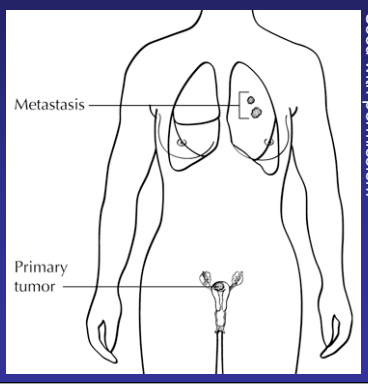
The two main types of ovarian cancer, epithelial carcinomas and germ cell tumors, have similar patterns when they spread. Unfortunately, per ACS in *Facts & Figures*, only about 19% of ovarian cancers are still localized at the time of diagnosis.

Ovarian cancers tend to remain confined to the peritoneal cavity, studding the cavity and organs with peritoneal implants. Peritoneal implants within the pelvis are regional; peritoneal implants outside the pelvis in the abdominal cavity are distant. Peritoneal implants outside the pelvis are stage III ovarian cancer in AJCC. Spread to distant organs outside of the pelvis and abdomen is not very common.

Initially, the ovarian cancer might enlarge the size of the ovary, but shedding of cancer cells into the peritoneal cavity occurs fairly quickly prior to the patient developing symptoms. The incidence of regional lymph node involvement is high, usually to the para-aortic nodes. Peritoneal implants and malignant ascites are characteristic of ovarian cancer. The size of the implants is a predictor of the effectiveness of therapy. The size of the implants is also a factor in staging. The bowel and bladder walls are common sites for invasion. Walls of the bladder, rectum, rectosigmoid and sigmoid are regional spread. Mucosal involvement of any of these sites is distant.

Pattern of Spread: GTT

- Invasion of the myometrium
- Highly aggressive
- All lymph nodes are distant
- Common distant sites
  - Lung
  - Brain
  - Liver
  - Pelvis
  - Vagina
  - Kidney



AJCC Cancer Staging Atlas, 2006. Used with permission.

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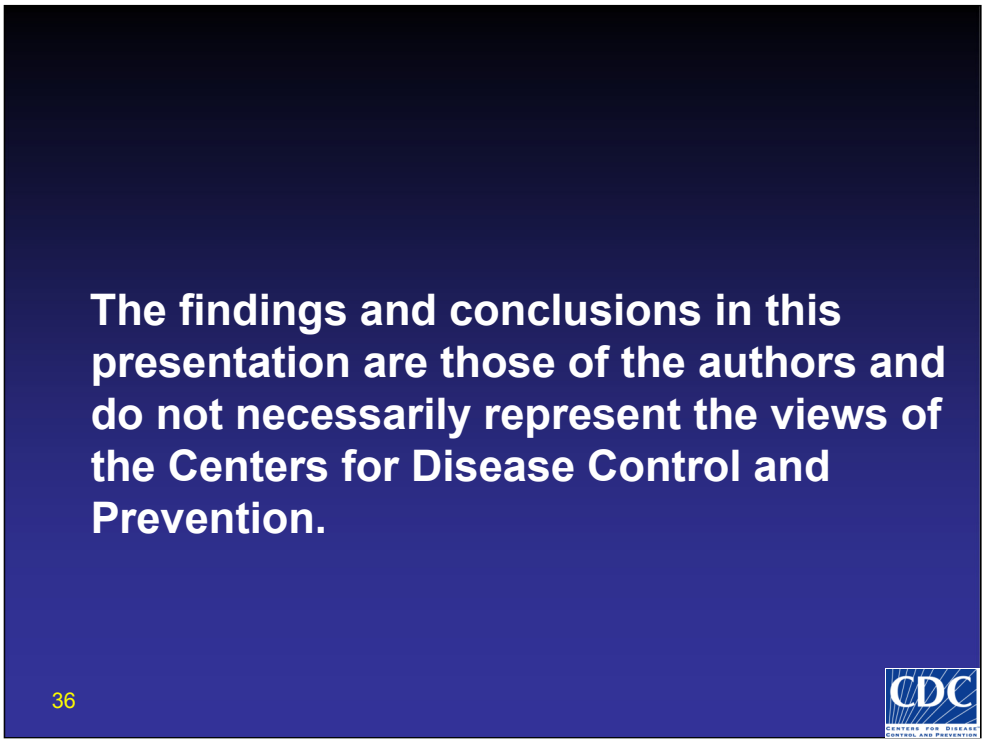
The most common cancerous gestational trophoblastic tumor is choriocarcinoma. Choriocarcinoma is very aggressive and usually spreads outside of the uterus fairly quickly. Lung and brain are common sites of distant metastases.

(Go to part 3)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